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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

1972 ANNUAL REPORT
OF

PLANT MATERIALS CENTER

COFFEEVILLE, MISSISSIPPI

PART I

U.S. DEPT. OF AGRICULTURE
NATL. ARCHIVE
DEC 5 '74
PRODUCTION
CURRENTS
RECORDS



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Coffeeville, Mississippi
Part I

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PART I
COFFEEVILLE PLANT MATERIALS CENTER
ANNUAL TECHNICAL REPORT

1972

This is a report of the technical activities of the Coffeeville Plant Materials Center for calendar year 1972. It is written in a brief summary form and most details are avoided.

The center is located seven miles west of Coffeeville, Mississippi on Tillatoba Road. The land utilized is leased from the U. S. Forest Service. It varies considerably in slope, soil type, amount of erosion etc., thus providing a variety of conditions for plant testing.

Weather Summary

Weather during 1972 could best be described as near normal. A total of 58.47 inches of rain fell during the year, with a monthly low of 0.81 inches in February and a high of 8.16 inches in November. No high or low temperature extremes occurred at any time. No droughts of any consequence were recorded.

I. Assembly of Materials

One hundred forty new plant accessions were received by the Plant Materials Center in 1972. All new accessions are established as soon as practical after they are received, and observed for potential to solve conservation problems. Listed below is a general break-down of the problems for which these plants will be observed.

- A. Streambank or Reservoir Levee Erosion Control.
Both grasses and woody shrubs were received.
- B. Erosion Control on Roadbanks and Similar Sites.
Grasses and legumes were received for testing on these problems.
- C. Cool Season Forage Production and/or Erosion Control.



The testing procedure was as follows:

First Year-1970

Establish the plants as described above. Remove water at 3-4 week intervals long enough to clip the area. Keep clippings from any plots which produce good amounts of seedheads.

Second Year-1971

Maintain water and clipping as in first year. Divide each plot into two sub-plots. Apply 20 lbs/ac ammonium nitrate in May to one sub-plot and no fertilizer to the other.

Watch for seedhead production on all sub-plots. If reasonable amounts are produced, allow seed to mature and clip plots. Retain clippings, thresh, and clean seed, and determine seed yield.

Third Year-1972

Apply Karmex herbicide at recommended rate in late March to control annual grasses. Otherwise follow same procedure as in 1971.

Test Results

In 1970 all ten accessions covered the plots adequately. Few seedheads were produced so no clippings were kept. Weedy annual grasses proved to be a problem.

In the second year, weedy grasses were even more of a problem. All plants produced seedheads and these were clipped and retained. However, there was so much unwanted material from weedy grasses that seed production could not be determined.

The Karmex application controlled the weedy grasses only for a short period. They were a severe problem again. Clippings taken in August were retained, but seed production could not be determined because of these unwanted grasses.

This test failed to determine any satisfactory method for seed production in these grasses. It was discontinued after 1972.

B. Evaluation of Myrica spp., Wax Myrtles and Boyberries as Stream Channel Erosion Control Plants

Both wax myrtles and boyberries possess characteristics which make them potentially valuable for stream channel erosion control. They are rather variable, but some form dense colonies and will grow in wet areas. They are generally small to medium shrubs and should not block channels.

The Coffeenville Plant Materials Center received thirty accessions of Myrica as seed in the fall of 1971 and winter of 1972. Seed of each accession was used to plant a 50 foot row on April 10, 1972.

Ten seedlings from each accession was to be transplanted to a suitable area for growth and allowed to grow. Those plants having suitable growth type could then be selected for increase and use in channels.

None of the seed germinated in the spring of 1972. These seed have a hard, waxy coat so this is not unusual. The planting area was left undisturbed so that germination could occur in the spring of 1973.

C. Planting Date and Depth Requirements for Germination and Establishment of Five Species of Plants

Test results of two years work on this project were written up in the 1971 Annual Technical Report of this Center. There were some gaps in this data and results were inconclusive. Therefore, another year of growth was decided upon.

Briefly stated, the testing would to make monthly plantings at depths of 0", 1/4", 1/2", 1", and 1 1/2" of the following plants:

Echinochloa holubii, Lumpopograss, MS 924
Lespedeza virgata, Spreading lespedeza, MS 126
Panicum virgatum, 'Pangburn' switchgrass, MS 155
Paspalum nicorae, Brunswickgrass, MS 906
Paspalum notatum, 'Wilmington' bahiagrass, MS 131

Each planting required 100 seed of each plant for each of the five depths. Each 100 seed were planted in a row 3 feet in length. Germination results were recorded shortly after germination occurred. One year after germination a visual estimate of the percent-age of ground covered by each planting would be made.

These plantings were begun in October 1972.

IV Field Evaluation Plantings

Evaluation of field plantings is covered in a report by the Plant Materials Specialist for Arkansas, Louisiana, and Mississippi.

V. Plant and Seed Increase

Plant and seed production for 1972 is shown in a table beginning on the following page:

PLANTS FOR FIELD PLANTINGS AND FLOOD PREVENTION USE

Species	MS No.	PI or Other No.	Amount Planned Plants (ea.)	Area in Production	Amount Harvested Plants (ea.)	Purpose of Increase
<u>Ampelopsis arborea</u>	3691		---	50' row	5 plants	A.1
<u>Ampelopsis brevipedunculata</u>	2665		2000 plants	900' row	8600 plants	A.1
<u>Bumelia lamuginosa</u>	3289		---	50' row	---	B.5
<u>Bumelia lycioides</u>	3692		---	21' row	---	B.5
<u>Campsis radicans</u>	3800		---	--	230 plants	A.1
<u>Callicorpa americana</u>	3768		---	300' row	---	C.1 & C.3 & C.4
<u>Castanea alnifolia</u>	4		800 plants	1050' row	2200 plants	C.6
<u>Castanea mollissima</u>	Mixed		5000 plants	0---	8 plants	C.6
<u>Castanopsis schlerophylla</u>	3171		---	--	30 Plants	C.6
<u>Castanea sp.</u>	3690	---	---	20' row	---	C.6
<u>Cleyera japonica</u>	3693		---	50' row	---	B.1 & B.5
<u>Cynodon dactylon</u>	Turfcore		300 sq. yds.	--	288 sq. yds.	B.3
<u>Elaeagnus umbellata</u>	430		600 plants	150' row	---	C.7
<u>Elaeagnus umbellata</u>	432		2500 plants	150' row	17 plants	C.7
<u>Elaeagnus umbellata</u>	1723		---	600' row	6 plants	C.7
<u>Euonymus bungeanus</u>	2945		100 plants	60' row	---	C.1 & C.7



PLANTS FOR FIELD PLANTINGS AND FLOOD PREVENTION USE

Species	MS No.	Pl or Other No.	Amount Planned Plants (ea.)	Area in Production	Amount Harvested Plants (ea.)	Purpose of Increase
<u>Hemirocallis fulva</u>	2165		---	---	10,062 plants	B.5
<u>Ilex decidua</u>	3608		---	50' row	---	B.5 & C.3
<u>Ilex vomitoria</u>	2757		---	15' row	---	B.5 & C.3
<u>Lonicera maackii</u>	2161		3000 plants	600' row	1075 plants	B.1 & C.7
<u>Malus buccata himalaica</u>	3221		---	36' row	---	B.2 & C.7
<u>Malus hupehensis</u>	150		4700 plants	900' row	2575 plants	B.2 & C.7
<u>Malus sargentii</u>	3504		---	5' row	---	B.2 & C.7
<u>Malus sikkimensis</u>	3503		---	12' row	---	B.2 & C.7
<u>Panicum hemitomom</u>	2138		---	3/4 acre	13,100 plants	A.1 & D.1
<u>Parthenocissus quinquefolia</u>	3694		---	300' row	5 plants	A.1
<u>Paspalum distichum mixed Knotgrass</u>			---	1000 sq ft.	---	A.1 & D.1
<u>Phyllostachys bissetii</u>			As requested	300' row	860 plants	B.2
<u>Bisset's bamboo</u>	499					
<u>Phyllostachys meyerii</u>			as requested	300' row	800 plants	B.2
<u>Meyer's bamboo</u>	498					
<u>Phyllostachys sp. Hardy bamboo</u>	500		As requested	300' row	---	B.2

PLANTS FOR USE ON CENTER AND OTHER SPECIAL TESTS

Species	MS No.	PI or Other No.	Amount Planned Plants (ea.)	Area in Production	Amount Harvested Plants (ea.)	Purpose of Increase
<u>Cotoneaster racemiflora</u>	2936A		---	300' row	15 plants	B.5
<u>Myrica carolinensis</u>	3688		---	50' row	---	A.1
<u>Myrica cerifera</u>	3685		---	50' row	---	A.1
<u>Myrica cerifera</u>	3686		---	50' row	---	A.1
<u>Myrica cerifera</u>	3687		---	50' row	---	A.1
<u>Myrica cerifera</u>	3699		---	50' row	---	A.1
<u>Myrica cerifera</u>	3700		---	50' row	---	A.1
<u>Myrica cerifera</u>	3706		---	50' row	---	A.1
<u>Myrica cerifera</u>	3711		---	50' row	---	A.1
<u>Myrica cerifera</u>	3714		---	50' row	---	A.1
<u>Myrica cerifera</u>	3718		---	50' row	---	A.1
<u>Myrica cerifera</u>	3720		---	50' row	---	A.1
<u>Myrica cerifera</u>	3722		---	50' row	---	A.1
<u>Myrica cerifera</u>	3723		---	50' row	---	A.1
<u>Myrica gale</u>	3773		---	50' row	---	A.1
<u>Myrica gale</u>	3774		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3702		---	50' row	---	A.1

PLANTS FOR USE ON CENTER AND OTHER SPECIAL TESTS

Species	MS No.	PI or Other No.	Amount Planned Plants (ea.)	Area in Production	Amount Harvested Plants (ea.)	Purpose of Increase
<u>Myrica pennsylvanica</u>	3703		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3704		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3705		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3707		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3708		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3709-		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3710		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3713		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3715		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3716		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3717		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3719		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3721		---	50' row	---	A.1
<u>Myrica sp.</u>	3689		---	50' row	---	A.1
<u>Prunus caroliniana</u>	3186		100 plants	110' row	50 plants	B.2
<u>Prunus caroliniana</u>	3481		---	225' row	4 plants	B.2

* Listing of Problems begin on following page:

PLANTS FOR FIELD PLANTINGS AND FLOOD PREVENTION USE

Species	MS No.	Pl or Other No.	Amount Planned Plants (ea.)	Area in Production	Amount Harvested Plants (ea.)	Purpose of Increase
<u>Pinus sp.</u>	3518		---	50' row	---	D.2
<u>Pinus sp.</u>	3519		---	60' row	---	D.2
<u>Pyrus sp.</u>	3281		10 plants	12' row	---	C.7
<u>Pyrus sp.</u>	3305		---	18' row	---	C.7
<u>Quercus acutissima</u>	3		1600 plants	75' row	190 plants	C.3 & C.6
<u>Quercus myrsinaefolia</u>	6		100 plants	--	18 plants	B.5 & C.6
<u>Quercus pumila</u>	2240		---	20' row	---	C.3 & C.6
<u>Rhamnus caroliniana</u>	3290		---	50' row	---	B.5 & C.7
<u>Rhamnus dahuricus</u>	3576		---	36' row	---	B.5 & C.7
<u>Rhamnus utilis</u>	3577-		---	18' row	---	B.5 & C.7
<u>Sapium sebiferum</u>	3480		---	60' row	720 plants	B.5
<u>Viburnum rufidulum</u>	3291		---	21' row	---	B.5
<u>Vitis rotundifolia</u>	3695		---	50' row	---	C.6 & C.7

SEED FOR FIELD PLANTINGS AND FLOOD PREVENTION USE

Species	MS. No.	PI or Other No.	Amount Planned Seed (lbs.)	Area in Production	Amount Harvested Seed (lbs.)	Purpose of Increase
<u>Echinochloa frumentacea</u> <u>Chiwapa millet</u>	181	BN 8963	500 lbs	1 acre	00	C.2
<u>Eragrostis curvula</u> F.P. <u>Weeping lovegrass</u>			800 lbs	15 acres	520 lbs	A.2 & A.4
<u>Festuca arundinacea</u> 539 <u>Artrens fescue</u>			100 lbs	3/4 acres	130 lbs	E.1
<u>Festuca arundinacea</u> 1601 <u>KY 31 fescue</u>			10,000 lbs	40 acres	15,800 lbs	A.4
<u>Glycine ussuriensis</u> 128 <u>Wild reseeded soybean</u>			500 lbs	3 acres	840 lbs	C.1 & C.4
<u>Lespedeza cuneata</u> <u>Sericea lespedeza</u>			8000 lbs	75 acres	8300 lbs	A.4
<u>Lespedeza virgata</u> 126 <u>Spreading lespedeza</u>			500 lbs	2 acres	00	A.4
<u>Panicum virgatum</u> 155 <u>Pangburn switchgrass</u>			200 lbs	2 acres	73 lbs	E.4
<u>Paspalum notatum</u> 131 <u>Wilmington bahiagrass</u>			2000 lbs	30 acres	2550 lbs	E.7
<u>Paspalum notatum</u> F. <u>Wilmington bahiagrass</u>			50 lbs	1/2 acres	75 lbs	E.7
<u>Trifolium nigrescens</u> <u>Ball Clover</u>			1000 lbs	6 acres	850 lbs	A.3 & E.6

SEED FOR FIELD PLANTINGS AND FLOOD PREVENTION USE

Species	MS No.	PI or Other No.	Amount Planned Seed (lbs.)	Area in Production	Amount Harvested Seed (lbs.)	Purpose of Increase
<u>Trifolium vesiculosum</u> <u>Meechee Arrowleaf clover</u>			800 lbs	9 acres	280 lbs	E.6
<u>Trifolium vesiculosum F</u> <u>Meechee Arrowleaf clover</u>			1000 lbs	6 acres	3600 lbs	E.6

PROBLEMS requiring new plants are many and diverse. They are grouped in five categories, with problems in category A being given the highest priority and those in category E the lowest. Within each category the problems are arranged in order of importance; number one being the most important and the last problem the least important.

A. Problems Related to Sediment Producing Areas:

1. Controlling streambank erosion with vegetation.
2. Stabilizing gully erosion with vegetation.
3. Stabilizing sheet eroding sites with vegetation.
4. Controlling erosion on road embankments and cut banks with vegetation.
5. Vegetating mine spoil dumps.
6. Stabilizing water disposal areas with vegetation.
7. Controlling erosion on filled areas with vegetation.

B. Problems Related to Recreation and Improvement of the Environment:

1. Assemble information on the culture and management of plants needed for recreation and beautification purposes.
2. Screen plant materials to block unsightly scenes from public view.
3. Ground cover plants in areas with heavy traffic.
4. Erosion controlling plants that will withstand heavy foot traffic in shaded areas are needed for parks, playgrounds, and other recreational areas.
5. Ground cover plants to control erosion and improve the appearance of the area.

6. Assemble information about plants that adapted to sites that have been contaminated with industrial wastes.
7. Winter annual grass other than ryegrass for recreational areas with heavy foot traffic.

C. Problems Related to Wildlife Habitat Improvement:

1. Quail Food and Cover. New plants are needed to provide cover and food on problem sites such as eroding calcareous soils and mine spoil areas and utility rights-of-way. This last plant must be unacceptable to grazing animals.
2. Waterfowl Food. New plants are needed to fit the wide variety of conditions on sites frequented by waterfowl. Plants are needed that are easy to maintain and manage and which will produce large amounts of seed or green plant food.
3. Deer Browse. Perennial plants are needed to improve the winter deer browse.
4. Wild Turkey Food. There is a need for a perennial plant that will produce seed and fruit to improve wild turkey ranges.
5. Dove Food. Perennial seed producing plants would be desirable to replace annual crops which now leave the soil open to erosion for a short time each year.
6. Trees and shrubs to provide food for squirrels.
7. Trees or shrubs to provide seed or fruit for songbirds.

D. Problems Related to Soils or Site Conditions:

1. Wave action erosion control in water impoundment structures with vegetation.
2. Ground cover plants for mine spoil areas.
3. Controlling wind erosion on croplands with vegetation.
4. Salt tolerant plants to control shoreline erosion along the Gulf Coast.
5. Salt and/or alkaline tolerant plants to control erosion on either calcareous soils or soils contaminated with salt.
6. Ground cover plants for eroding soils that are very acid.



E. Problems Related to Grassland Conservation:

1. Improving soil protection and forage production with a cool season pasture plant.
2. Improving soil cover and forage production on low fertility soils or sites.
3. Improving soil cover and forage production on wet soils or sites.
4. Improving soil cover and forage production on wet soils or sites.
5. Improving range management practices by assembling information on the growth of range plants.
6. Improving soil cover and forage production with adapted legumes.
7. Improving soil cover and warm season forage production on droughty soils.
8. A warm season forage plant that can withstand flooding.
9. A perennial grass to prevent soil erosion and provide high quality frosted forage for winter grazing.
10. A leguminous plant for early fall grazing.
11. A high yielding hay plant that can be established from seed.

VI Certification and Release

Three plants produced by the Center in 1972 were inspected and certified by the Mississippi Seed Improvement Association. They are:

Tufcote bermudagrass - Registered
Meechee arrowleaf clover - Foundation Seed
Wilmington bahiagrass - Foundation Seed

VII Information

News Articles

A number of articles were written in local newspapers in 1972 describing work done by the Center. These are too numerous to mention, and copies of some of these articles are not available. All of the following articles written in 1972 concern work done by the Coffeeville Plant Materials Center.

1. Manning, Earl. 1972. The Search for New and Better Plants. The Progressive Farmer. Vol. 87, No. 9. p 24.
2. Price, Vincent J. 1972. The Economics of New Plants. Soil Conservation. Vol. 38. pp 67-70.
3. No author is listed for the following article.
-1972. Sawtooth Oak Feeds Wildlife. The Progressive Farmer. Vol. 87. No. 3. p 76A.
4. The following article appeared in the Coffeeville Courier, July 20, 1972. "Local Plant Materials Center Seeks Plants to Fill All Needs; is Visited by Many States."
5. The following article appeared in the Clarion Ledger (Jackson, Miss.) on February 2, 1972, and in other newspapers.
"New Grass Covers. Deep Gullies Filled, Football Field Built."

Visitations

On July 7, 1972, a field day was held at the Plant Materials Center. Approximately 250 people from Alabama, Arkansas, Louisiana, Mississippi and Tennessee attended.

Various other smaller groups visited the Center during the year. These included students in summer training programs, a ladies garden club group, and persons with only a personal interest in the Center.

VIII The Center provided no training for persons outside the Soil Conservation Service in 1972.

